

2023

# A statistical analysis of the population of Barbel in the River Teme

Keeling, A.

Keeling, A. and Oben, P. (2023) 'A statistical analysis of the population of Barbel in the River Teme', *The Plymouth Student Scientist*, 16(2), pp. 157-174.

<https://pearl.plymouth.ac.uk/handle/10026.1/21842>

---

The Plymouth Student Scientist  
University of Plymouth

---

*All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.*

## Appendix

Dispersion test

```
data: sixanglerpoisson
z = 1.5879, p-value = 0.1123
alternative hypothesis: true dispersion is not equal to 1
sample estimates:
dispersion
1.596569
```

Figure 0.1: Dispersion Test for 6 Angler Poisson Model

Dispersion test

```
data: environmental_poission
z = 2.6467, p-value = 0.008129
alternative hypothesis: true dispersion is not equal to 1
sample estimates:
dispersion
8.524506
```

Figure 0.2: Dispersion Test for Environmental Poisson Model

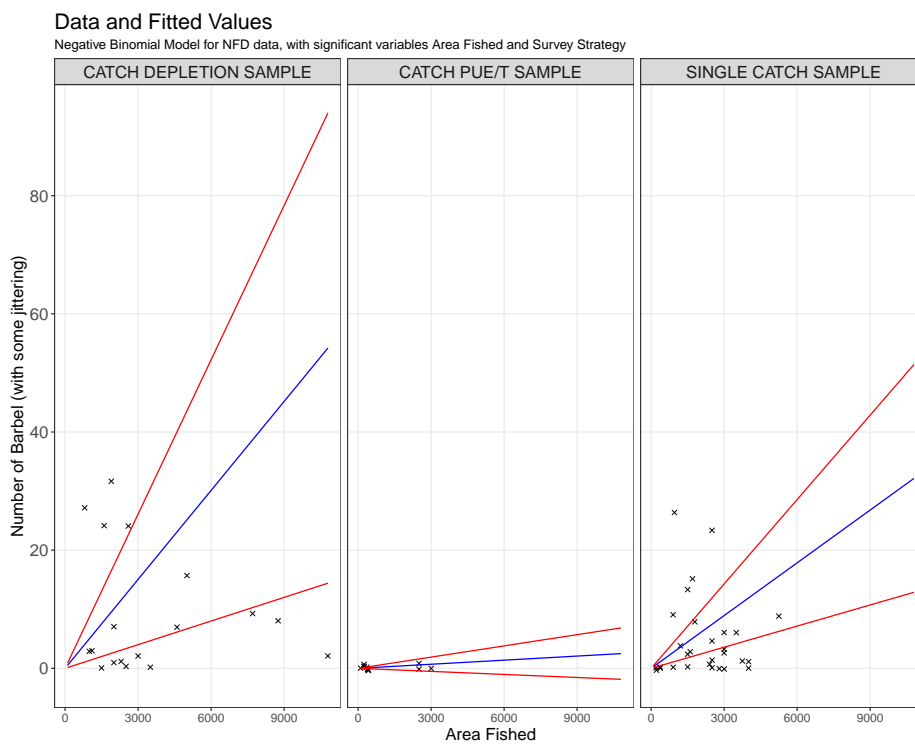


Figure 0.3: Fitted values of Number of Barbel model and real data points, plotted against Year for the Environmental Data

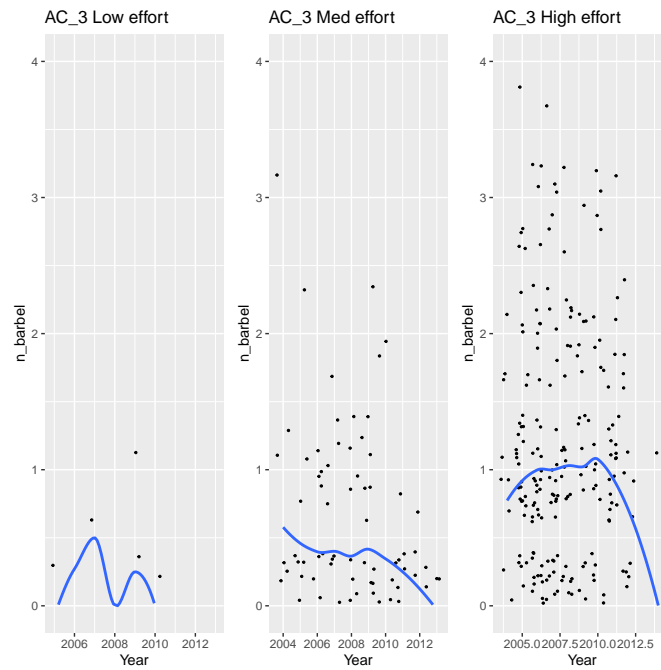


Figure 0.4: Rate vs Year by Effort level for AC<sub>3</sub>

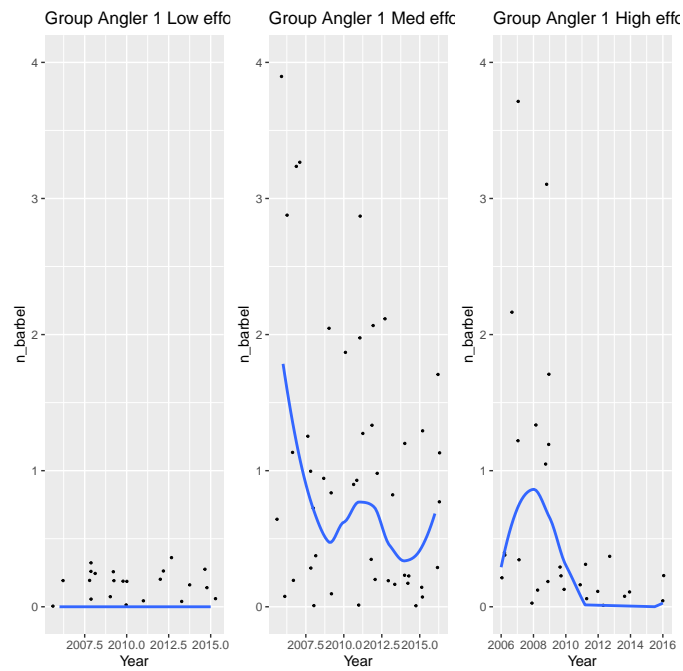


Figure 0.5: Rate vs Year by Effort level for Group Angler 1

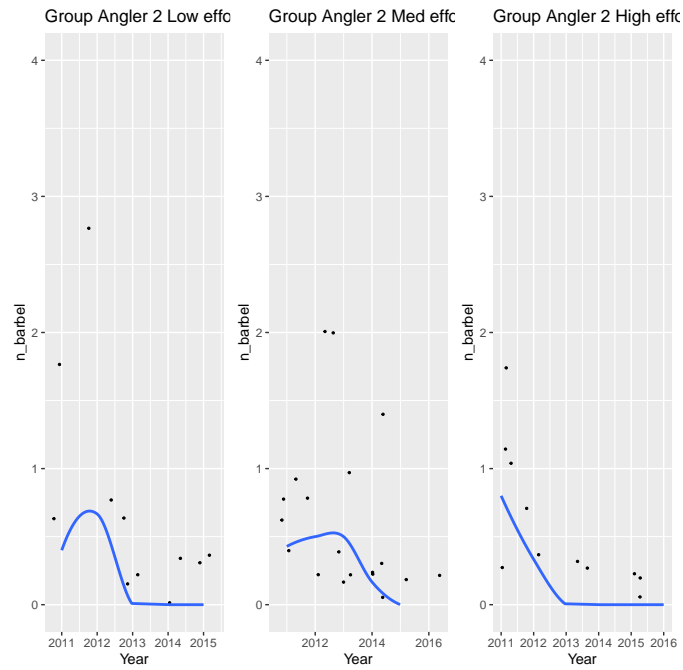


Figure 0.6: Rate vs Year by Effort level for Group Angler 2

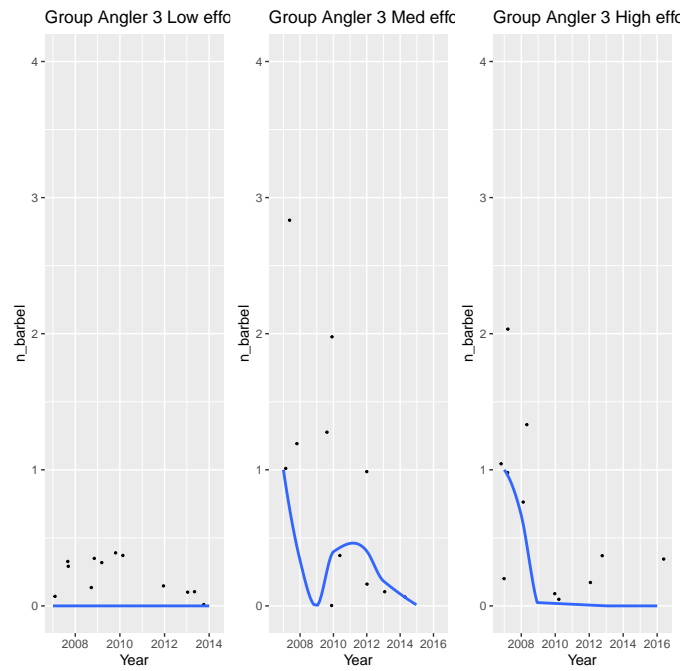


Figure 0.7: Rate vs Year by Effort level for Group Angler 3

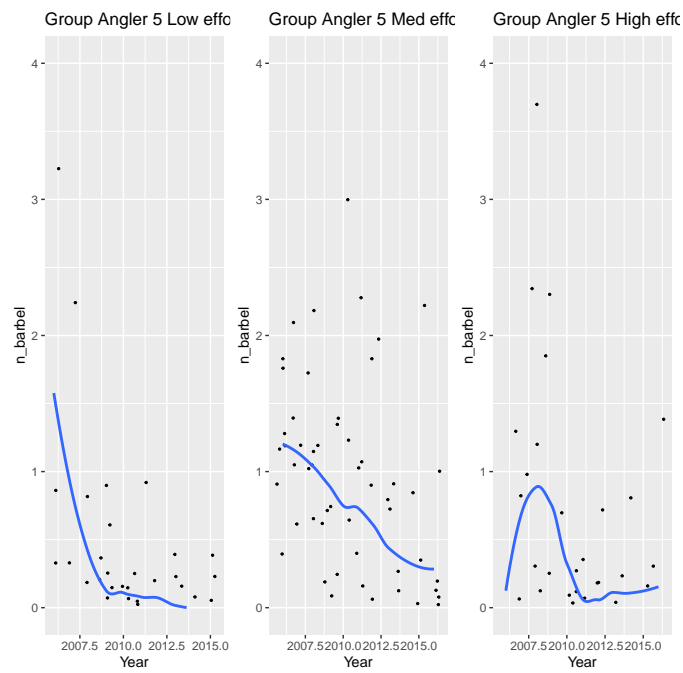


Figure 0.8: Rate vs Year by Effort level for Group Angler 5

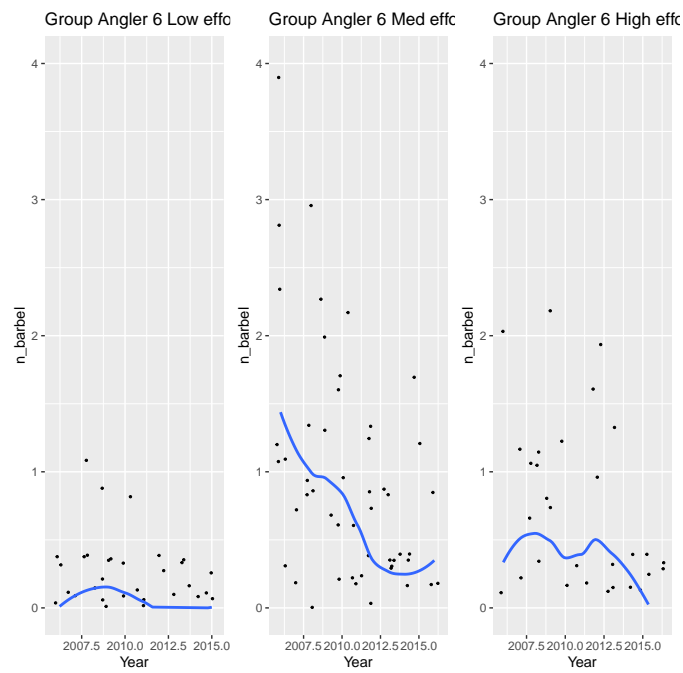


Figure 0.9: Rate vs Year by Effort level for Group Angler 6